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09/578,739	05/25/2000	Ibrahim Kamel	9432-000057	8102

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EXAMINER	
HUYNH, SON P	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/578,739	KAMEL ET AL.	
	Examiner	Art Unit	
	Son P. Huynh	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-14 and 16-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *16-23* is/are allowed.

6)☒ Claim(s) *1-4,6-14 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 May 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3, 5-14 have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicant's request to provide a reference that teaches multiple buffers (page 27, lines 2-3), the Examiner refers to Eyer reference to support the Official Notice taken that using multiple buffers is well known in the art.

The cited references (Polish and Eyer) further disclose the new added features of claims 1 and 11, 24 as discussed below.

Claims 4, 15, 25-31 have been cancelled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4,6-14, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polish (US 5,963,202) and in view of Eyer et al. (US 6,588,015).

Regarding claim 1, Polish teaches a system for supporting at least one VCR function in a network-based video-on-demand delivery system, comprising:

a player (125,195,170,175 – figure 1) having a user interface (125,195) that provides at least one user-actuable VCR function initiator (pause, past forward, etc. col. 3, lines 36-50), the player being adapted for coupling to a display monitor (display 135 – figure 1) to supply a video stream to the monitor for playback (col. 2, lines 53-58; col. 3, lines 29-31);

the player maintaining at least one playback pointer (figures 4-7 and col. 5, lines 1-17) that provide information indicate of the current video playback frame;

at least one buffer (video buffer 165 – figure 1) coupled to the player having an associated loader (communications Engine 155-figure 1) for downloading video data from the delivery system (video server system 105 or disk buffer system 195 – figure 1);

a manager (Current status Manager 180, video driver 170 – figure 1) coupled to the player and to the loader for selectively causing the loader to download video data from the delivery system in order to maintain the playback pointer within a predetermined location range within the buffer (figures 4-8 and col. 3, lines 51-67; col. 5, lines 32-42;

col. 6, line 65-col. 7, line 32); Polish further disclose display a "blue screen" if stop 190 is selected (col. 6, lines 49-60) broadly reads on the claimed feature of "resulting from a selected user interaction with said VCR function initiator will result in discontinuous playback." However, Polish does not specifically disclose a feasible point calculation module that assess whether a destination point located at or before a current broadcasting frame point.

Eyer discloses a digital radio broadcast system (col. 1, lines 58-65). The system should be compatible with audio data as well as video and multimedia data (col. 1, lines 49-50). A plurality of data are buffered in buffers of RAM (230,240 – figure 2). The system allows the user to select a particular point where the selected data is buffered (i.e., the user select to skip backward to a point where the particular track is located, the track associated with the selected point is retrieved and playback (col. 10, lines 10-15). Thus, "a feasible point module" is included in the system so that the selected point would be calculated. The claimed feature of "assesses whether a destination point located at or before a current broadcasting frame point" is broadly met by the system determines the selected point that stored the data of the track in the buffer, wherein the claimed "destination point at or before a current broadcasting point" is broadly met by any points associated with buffered data. Eyer further discloses if a third SKIP FORWARD command were issued before the track G packet 414 was available, for example, at point 486, then track G could not be played, and an alert signal such as a beep is preferably provided to inform the listener to wait to access new track (col. 13, lines 8-15). Thus, the claimed feature of "resulting from a selected user interaction with the

VCR function initiator will result in discontinuous playback" is met by resulting from user selection of SKIP FORWARD/STOP will result in waiting to access new tracks/stop playback. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Polish to use the teaching as taught by Eyer in order to allow user to quickly skip to a desire point in the buffer, thereby reduce delay time to provide desired data to user.

Regarding claim 2, Eyer further discloses a plurality of buffers (i.e., buffers #1, #2 – figure 2) each being selectively loaded with data under control of the manager (control CPU) such that at least one of the buffers contains data that precedes the current playback track (col. 4, line 42-col. 5, line 10; col. 6, lines 50-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify Polish to use the teaching as taught by Eyer in order to buffers two or more streams concurrently, thereby reduce the transmission time (col. 4, lines 60-65).

Regarding claim 3, Eyer further discloses each of the buffers has an associated loader (stream/channel/line –figure 2, col. 4, lines 35-64; col. 6, lines 30-67).

Regarding claim 5, Polish in view of Eyer teaches a system as discussed in the rejection of claim 4. Eyer further teaches responsive to the feasible point calculation module to modify a requested VCR function such that the function will not result in discontinuous playback (the user may decide to return to one of the earlier tracks, using

the SKIP BACKWARD function or if SKIP FORWARD command were issued before the track G packet 414 was available, the play back can be moved as far forward as possible (as near to end), which is the point at which data is currently arriving (col. 13, lines 13-21).

Regarding claim 6, Polish teaches the user interface provides VCR functions selected from the group consisting of: jump backward, fast rewind, pause, stop, play, slow motion play, fast forward and jump forward (the user can select an input control signal from options including rewind, fast forward, play, pause and stop – col. 3, lines 36-50).

Regarding claim 7, Eyer further discloses at least three buffers (235,240,245) coupled to the player (figure 2). Therefore, it would have been obvious to one of ordinary skill in the art to modify Polish to use the teaching as taught by Eyer in order to buffers two or more streams concurrently, thereby reduce the transmission time (col. 4, lines 60-65).

Regarding claim 8, Eyer further discloses at least three buffers (235,240,245) coupled to the player (figure 2), each buffer having an associated loader (each buffer having an associated stream/channel/line – figure 2, col. 4, lines 35-64; col. 6, lines 30-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify Polish to use the teaching as taught by Eyer in order to buffers two or more streams concurrently, thereby reduce the transmission time (col. 4, lines 60-65).

Regarding claim 9, Polish teaches the manager implements at least two different downloading schemes, including a first scheme for loading the buffer upon startup (loading current second of video information, labeled as "t=0", and five previous second of video information and five future second of the video information – figure 4, col. 5, lines 1-17) and a second scheme for loading the buffers after startup (e.g. after three second of playback relative to the state of video buffer 165, the video buffer controller updates the pointer to reference the current second of video information which is three seconds of information beyond the current second discussed in figure 4. The current status manager request to download three future second of information to replace the oldest three previous second of information – figure 5 and col. 5, lines 18-42).

Regarding claim 10, Polish teaches the system comprising plurality of "1 second buffer data" (figure 4) coupled to the player and wherein the manager implements at least two different downloading schemes, including:

a first downloading scheme in which a first one of the "1 second buffer data" is loaded with a first segment (e.g. 1 second buff data at t=0 – figure 4) and the second and third of the "1 second buffer data" are respectively loaded with second and third segments that each follow the first segments (e.g. buffer of t= 1s and t=2s – figure 4);

a second downloading scheme in which a first one of the "1 second buffer data" is loaded with a first segment (t=0), a second of the buffer is loaded with a second segment that precedes the first segment (e.g. segment at t= -1 second precedes

segment at t= 0 – figure 6) and a third of the "1 second buffer data" is loaded with a third segment that follows the first segment (e.g. segment at t= -2 second follows the segment at t = 0- figure 6). Eyer further discloses at least three buffers (235,240,245) coupled to the player (figure 2). Therefore, it would have been obvious to one of ordinary skill in the art to modify Polish to use the teaching as taught by Eyer in order to buffers two or more streams concurrently, thereby reduce the transmission time (col. 4, lines 60-65).

Regarding claim 11, Polish teaches a video-on-demand system (requested video data is provided from video server system 105- col. 2, line 59-col. 3, line 6) to prefetch segments of video data streams through multiple communication channels of data centered broadcasting network (110 – figure 1) from a video data server (105 –figure 1) for implementing VCR functions including at least playback the segments, the client system (115) comprising:

at least one loader (at communication Engine 155 –figure 1) for download the segments of the video stream from the video data server (communications engine 155 receives video data from video server system 105 - col. 3, lines 23-25);

at least one buffer to store the downloaded segments from the loader (communications engine 155 forwards the received video data to a video buffer 165 for storage – col. 3, lines 23-27);

a player (i.e. Video Driver 170, Input Interface 195, Input device 125, Video Buffer Controller 175 – figure 1) to playback the segments read from the buffer (165), the

player being responsive to VCR function commands given through user interface thereof (col. 3, lines 29-50);

a playback pointer (in video buffer controller 175-col. 5, lines 1-25) to issue playback commands to the player for designating a playback starting point of the segment in the buffer (col. 5, lines 1-41);

a prefetch manager (status manager 180 – figure 1) to issue prefetch commands to the loader for prefetching the segments from the server (105) based on the current playback point (e.g. at t=0 – figure 4) of the segment in the buffer so as to keep the playback point designated by the pointer within predetermine range of the buffer (figures 4-8 and col. 3, lines 51-67; col. 5, lines 32-42; col. 6, line 65-col. 7, line 32). However, Polish does not specifically disclose according to size of the broadcasting segment though the channels of the network from the server to the client, the playback pointer designates the feasible playback starting point for a destination frame point p of the segment designated by VCR function command, and location of the playback point is conditioned so as to ensure that modification of a requested VCR function relating to a destination point located at or before a current broadcasting frame point avoids discontinuous playback.

Eyer discloses providing data streams of audio tracks through the channels of network from the broadcaster to the receiver (figures 1-2), the receiver allow user to select a desired track at particular point in the buffer to playback. When a user select a skip to a point that the track is not available in the buffer, the playback can be moved as far

forward as possible (as near to the end), which is the point at which data is currently arriving (figure 2, col. 13, lines 1-22). The audio track inherently has a size and the playback is started at the beginning of the audio track of the selected point where the track is located. Therefore, the claimed feature of "according to size of the broadcast segment,... said playback pointer designates the feasible playback starting point for a destination frame point p of the segment designated by VCR function commands" is broadly met by according to the size of the audio track, the selected pointer designates the starting point at the first frame of the beginning of the track designated by VCR function command (i.e., skip, stop, etc.); the claimed feature of "location of said playback pointer is conditioned so as to ensure that modification of a requested VCR function relating to a destination point located at or before a current broadcast frame point avoids discontinuous playback" is broadly met by moving the playback point as far as possible (as near to the end) to avoid discontinuous playback if the user select a point in the buffer where the audio track is not available.

Regarding claim 12, Polish teaches the predetermined range of the buffer is a middle part thereof (figure 4).

Regarding claim 13, the limitations as claimed correspond to the limitations as claimed in claim 3, and are analyzed as discussed with respect to the rejection of claim 3.

Regarding claim 14, Polish in view of Eyer teaches a system as discussed in the rejection of claim 11. Polish further teaches the VCR function given through the user interface of the player including normal play (play button 186) which playbacks the segment of the video streams at normal speed, fast forward (184) which playbacks the segment at multiple times speed as normal play in forward direction, fast backward (rewind 182) which playbacks the segments at multiple times speed as the normal play in backward direction, pause (188) which playbacks stationary with keeping the current playback point (figure 1 and col. 3, lines 34-67). However, Polish does not specifically disclose slow forward, jump forward, jump backward options.

Eyer teaches jump forward (SKIP FORWARD button 254 – figure 2) which jumps directory to the destination point of the segment specified in terms of forward distance relative to the current playback point and resumes the normal play from the jumped point (col. 8, lines 5-12), and jump backward (SKIP BACKWARD button 252 – figure 2) which jumps directory to the destination point of the segment specified in terms of backward distance relative to the current playback point and resumes the normal play from the jumped point (col. 7, lines 61-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Polish to use the teaching as taught by Eyer in order to quickly locate a point to start playing. However, neither Polish nor Eyer specifically discloses slow forward option which playbacks the segment slower than the normal play in forward direction. Official Notice is taken that using slow forward option is well known in the art. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to modify Polish and Eyer to use the well-known teaching in the art of slow forward option in order to allow user to play a program in an alternative rate.

Regarding claim 24, the limitations of the method as claimed correspond to the limitations of the system as claimed in claim 11, and are analyzed as discussed with respect to the rejection of claim 11.

Allowable Subject Matter

4. Claims 16-23 are allowed as a result of Applicant's amendment to incorporate subject matter indicated as allowable in the First Office Action, dated September 22, 2004, to overcome the prior rejections.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Payton (US 5,831,662) discloses near video on demand digital information delivery system and method using signal fragmentation and sequencing to reduce average bandwidth and peak bandwidth variablity.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son P. Huynh whose telephone number is 571-272-7295. The examiner can normally be reached on 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher C. Grant can be reached on 571-272-7294. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPH
June 24,2005

CHRIS GRANT
PRIMARY EXAMINER